

Mean Right Ascensions and North Polar Distances for January 1, 1889, of Comparison Stars for the Planets Victoria and Sappho. Observed with the Cambridge Transit Circle.

(Communicated by Professor J. C. Adams.)

Mean Right Ascensions and Mean North Polar Distances for January 1, 1889, of Comparison Stars with the Planet Victoria. Observed with the Cambridge Transit Circle.

No. of Star.	D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
					h	m	s	°	'	"
1	-6-5151	June	25	7.7	19	21	25.277	95	57	22.38
			27				25.331			22.88
		July	5				25.277			21.47
2	-6-5158	June	26	8.3	19	23	2.638	96	24	1.49
			July				2.858			2.49
			11				2.537			2.46
3	-5-4985	June	25	8.5	19	24	6.228	95	9	7.85
			July				6.376			8.27
		Aug.	3	8.5			6.299			7.78
4	-5-4989	July	23	8.4	19	25	17.954	95	54	13.15
			Aug.				17.960			14.00
			6	8.4			17.933			14.01
			31	8.4			17.998			13.79
5	-5-4992	June	26	8.3	19	25	40.583	95	21	3.37
			July				40.391			4.08
			30	8.2			40.462			4.10
		Aug.	7	8.2			40.267			3.35
		Sept.	6	8.2			40.361			4.51
6	-5-5006	June	25	7.5	19	27	50.552	94	58	51.07
			July				50.627			51.26
			18	7.6			50.527			49.45
		Aug.	3	7.6			50.574			50.92
		Sept.	6	7.6			50.533			50.83
7	-4 4843	June	27	8.5	19	28	37.814	94	41	25.84
			July				37.677			25.00
		Sept.	7				37.797			24.39
8	-4-4846	July	5	7.7	19	29	20.712	94	33	7.02
			23				20.722			6.23
		Aug.	28	7.8			20.664			6.84

March 1891.

of Comparison Stars etc.

345

No. of Star.	D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
9	-5-5021	June 25	7.8	19	30	41.190	95	1	3.77
		July 8	7.8			41.248			2.77
		18	7.7			41.265			4.62
10	-4-4855	June 26	7.5	19	30	53.644	94	32	44.64
		Aug. 15				53.349			45.15
		31				53.463			44.79
11	-3-4649	July 5	8	19	31	22.045	93	43	20.29
		23	8			22.127			19.69
12	-4-4861	June 27	5	19	31	54.011	94	53	42.04
		July 11	5			53.970			41.03
		Aug. 6	5			54.107			41.14
		Sept. 6	5			53.996			42.62
13	-5-5036	June 25	6.8	19	34	26.921	95	42	8.71
		July 5				26.973			7.61
		Aug. 17				26.969			8.91
14	4-4877	June 26	7.5	19	34	53.740	94	17	22.40
		Aug. 3	7.5			53.569			22.83
		5	7.5			53.503			22.71
		15	7.5			53.445			22.55
		Sept. 6	7.5			53.528			23.08
15	-4-4883	June 27	9.3	19	35	56.163	94	32	51.76
		July 8				56.113			50.92
		11				56.046			50.98
		Aug. 6	7.7			56.058			50.73
		28	7.7			56.074			50.70
		29	7.7			56.032			50.90
16	-4-4903	31	7.7			56.007			51.00
		June 25	8.3	19	39	23.743	94	47	23.60
		July 5				23.780			24.13
		11				23.825			24.01
17	-4-4916	Aug. 3				23.699			23.76
		June 26	7.8	19	40	59.612	93	56	0.76
		July 30	7.8			59.554			1.53
		Aug. 15	7.8			59.475			1.70
		28	7.8			59.432			1.80
		Sept. 6	7.8			59.492			2.92

346

Cambridge Observatory, Mean Places

LI. 5,

No. of Star.	D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
					h	m	s	°	'	"
18	-5-5060	June	27	9.3	19	41	53.546	95	30	24.49
		Aug.	5	7.8			53.319			24.69
19	-4-4926	June	26	7.8	19	43	4.588	94	46	18.68
		July	11				4.559			19.69
			30				4.551			18.97
		Aug.	3				4.540			19.68
			6				4.569			18.87
			15				4.415			20.32
			29				4.499			18.79
			31				4.546			20.48
20	-4-4936	July	5	8	19	43	43.946	94	48	25.00
		Aug.	17				44.059			26.86
21	-5-5075	Aug.	5	6.5	19	44	56.186	94	58	28.19
			28				56.039			28.34
22	-4-4960	July	5	8	19	47	27.198	94	51	33.92
			18				27.377			33.95
			30				27.460			33.15
		Aug.	3				27.211			34.03
23	-5-5099	July	23	8	19	48	22.408	95	20	0.75
		Aug.	5				22.371			1.20
			6				22.425			1.87
			15				22.415			1.49
24	-5-5120	June	25	8.2	19	51	25.987	94	58	55.31
		Aug.	3				25.885			56.05
			28				25.823			55.41
			29				25.837			55.38
25	-5-5124	June	26	8.5	19	52	3.750	95	28	59.33
		July	23				3.456			59.85
		Aug.	15				3.583			60.55
			31				3.640			61.10
26	-6-5320	June	27		19	52	18.204	96	38	57.15
		Aug.	5	8.2			18.164			57.06
			17	8.2			18.318			58.21
		Sept.	6	8.2			18.124			57.44
27	-4-4984	July	11	8.2	19	52	38.194	94	39	18.21
		Aug.	6	8.2			38.020			18.68

March 1891.

of Comparison Stars etc.

347

No. of Star.	D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
28	-4-4992	June 25	7.8	19	54	57.323	94	36	54.01
		July 23				57.369			53.05
		Aug. 28				57.371			53.92
29	-6-5339	June 26	8.2	19	55	40.014	96	40	49.46
		July 11				39.856			49.82
		Aug. 5				39.707			51.09
30	-5-5138	July 5	6.3	19	56	17.713	95	17	50.33
		Aug. 3				17.687			50.13
		6				17.622			50.41
31	-8-5205	July 23	8.1	19	57	4.862	98	0	14.07
		Aug. 15				4.834			15.26
		31				4.719			14.96
32	-5-5144	July 11	8.2	19	57	21.802	94	56	29.58
		Aug. 5				21.727			29.65
		Sept. 6				21.719			30.23
33	-6-5360	July 5	8.3	19	59	23.962	96	53	58.89
		Aug. 3	8.5			23.854			59.50
		28	8.5			23.769			57.26
		29	8.5			23.781			57.97
34	-4-5016	July 18	7.2	20	0	44.997	94	44	5.41
		Aug. 5	7.2			44.839			5.83
35	-7-5169	July 11	8.2	20	0	46.700	97	19	56.54
		23				46.675			56.31
		Aug. 6				46.817			57.06
		15				46.699			56.48
		31				46.768			55.62
36	-8-5237	July 5	7.3	20	1	3.770	98	29	59.97
		Sept. 6				3.718			60.28
37	-9-5382	June 26	6.5	20	5	9.095	99	10	11.66
		27	7			8.939			12.15
		July 5	6.3			9.009			13.06
		18	6.5			8.945			13.62
		Aug. 6	6.5			8.967			13.48
		15	6.5			8.988			12.92
		28	6.5			8.975			13.21

Observations of Stars as Culminators.

D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
-8-4887	June	26	5.7	19	6	39.587	98	7	27.66
		27				39.491			26.84
	July	1				39.491			27.03
		5				39.349			28.36
		11				39.454			27.79
		18				39.401			27.69
		23				39.381			27.17
		30				39.468			28.06
		31				39.507			26.58
	Aug.	3				39.518			27.19
		5				39.381			26.97
		6				39.435			27.64
		7				39.423			27.58
		15				39.535			27.46
		17				39.541			28.11
		28				39.512			27.52
		29				39.384			28.87
		31				39.446			28.25
	Sept.	6				39.406			29.27
		7				39.424			28.23
-5-4936	June	27	5	19	14	37.282	95	37	22.26
	July	1				37.349			21.55
		5				37.319			21.47
		8				37.339			23.32
		11				37.329			21.54
		17				37.320			22.47
		18				37.376			22.46
		23				37.268			21.18
		30				37.424			22.43
	Aug.	3				37.370			22.37
		5				37.326			21.37
		6				37.301			22.44
		7				37.317			22.03
		15				37.439			21.84
		17				37.302			23.16

March 1891.

of Comparison Stars etc.

349

D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
			h	m	s	°	'	"
-5-4936	Aug. 28		19	14	37.338	95	37	21.43
	29				37.326			22.81
	31				37.327			22.49
	Sept. 6				37.328			22.90
	7				37.361			21.72
-6-5451	June 27	6.3	20	14	31.559	96	42	28.39
	July 5				31.592			28.90
	11				31.489			28.95
	18				31.650			30.05
	23				31.414			29.83
	Aug. 28				31.379			29.65
	29				31.451			29.36
	31				31.467			29.48
	Sept. 6				31.522			29.65
-3-4888	July 5	6.3	20	19	55.077	93	9	36.79
	8				55.185			36.63
	11				55.091			36.18
	23				55.063			36.62
	Aug. 28				55.058			36.29
	29				55.114			35.77
	31				55.059			36.29
	Sept. 6				55.055			36.67

*Mean Right Ascensions and Mean North Polar Distances for January 1, 1889,
of Comparison Stars with the Planet Sappho. Observed with the Cambridge
Transit Circle.*

No. of Star.	D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
	+ 8-101	Sept. 10	8.5	0	37	16.297	81	35	28.90
	+ 7-104	10	8	0	39	55.566	82	45	45.00
1	+ 8-110	16	7.7	0	42	25.240	81	23	2.80
		20				25.270			2.87
		Oct. 3				25.230			1.44
		7				25.196			3.30
2	+ 9-090	Sept. 17	9	0	42	31.166	80	20	50.19
		25	9			1.110			49.92

350

Cambridge Observatory, Mean Places

LI. 5,

No. of Star.	D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s			
3	+ 11-102	Sept. 18	8.6	0	44	24.341	78	46	23.79
		Oct. 3				24.409			24.68
		9				24.376			24.08
4	+ 9-097	Sept. 10	8.5	0	44	46.651	80	11	35.82
		20				46.784			35.36
		25				46.779			36.34
		Oct. 7				46.645			35.36
		12				46.623			35.79
		21				46.701			35.19
5	+ 11-106	Sept. 16	7	0	45	46.211	77	49	6.96
		Oct. 8				46.078			6.98
		10				46.172			7.30
6	+ 9-099	Sept. 17	8.3	0	46	20.497	80	0	8.65
		Oct. 9				20.399			6.10
7	+ 12-104	Sept. 20	7.3	0	46	40.018	76	57	14.75
		25				40.103			15.79
		Oct. 3				40.130			15.69
8	+ 9-101	Sept. 10	8.3	0	47	0.585	80	47	55.73
		18				0.631			54.61
		Oct. 12				0.576			56.44
9	+ 10-105	Oct. 7	8.4	0	48	2.888	79	28	48.63
		8				2.865			48.00
		9				2.840			46.62
		10				2.974			47.54
		14				2.998			47.59
10	+ 12-108	Sept. 10	8.2	0	49	11.918	77	45	15.41
		16				12.045			14.05
		20				11.932			15.63
		Oct. 3				12.118			14.66
11	+ 13-129	Sept. 17	6.5	0	50	19.780	76	38	58.88
		25				19.760			57.78
		Oct. 7				19.673			57.61
12	+ 11-118	Sept. 18	8.8	0	50	40.430	77	53	15.07
		Oct. 9				40.523			14.62

March 1891.

of Comparison Stars etc.

351

No. of Star.	D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
					h	m	s	°	'	"
13	+ 13-130	Oct.	8	8.7	0	50	52.305	75	49	29.51
			10				52.342			30.08
14	+ 9-110	Oct.	12	8.7	0	50	59.096	80	35	4.24
			21				59.228			6.36
			31				59.396			4.39
15	+ 11-120	Sept.	10	8.2	0	51	32.776	78	10	14.49
			20				32.901			13.82
		Oct.	3				32.997			13.06
16	+ 12-119	Sept.	16	6	0	52	5.148	76	54	14.06
		Oct.	7				4.967			16.66
			24				5.044			16.33
			25				5.095			15.64
17	+ 13-143	Sept.	10	8.5	0	53	53.646	75	59	20.58
			18				53.883			21.14
		Oct.	3				53.684			21.94
18	+ 10-115	Sept.	16	8.2	0	55	25.630	79	24	59.98
			25				25.648			61.11
19	+ 11-135	Sept.	20	8	0	55	32.916	78	41	9.15
		Oct.	14				32.826			9.80
			21				32.831			9.40
			25				32.810			9.87
20	+ 13-150	Sept.	17	8.5	0	56	43.529	79	20	42.89
		Oct.	3				43.560			40.92
			24				43.565			43.77
			31				43.539			40.39
21	+ 15-154	Sept.	18	8.5	0	57	9.577	74	27	33.08
		Oct.	10				9.849			33.94
			12				9.605			32.29
22	+ 12-126	Sept.	20	7.8	0	57	16.380	77	32	49.48
			25				16.454			49.90
23	+ 13-155	Sept.	16	8.7	0	58	0.654	76	39	32.31
		Oct.	9				0.682			32.50
24	+ 14-163	Sept.	10	5.5	0	59	13.705	75	39	4.18
			17				13.763			4.76
			25				13.753			4.14

352	Cambridge Observatory, Mean Places					LI. 5,		
No. of Star.	D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.
					h	m	s	° ' "
24	+ 14-163	Oct.	8	5.5	0	59	13.681	75 39 4.04
			12				13.933	3.77
			25				13.770	4.92
25	+ 14-168	Sept.	18	9	0	59	57.018	75 36 42.56
			20				57.076	44.10
		Oct.	9				57.127	44.09
			10				57.131	44.48
			24				57.087	45.12
26	+ 15-159	Sept.	16	8.5	1	0	29.723	74 16 49.53
		Oct.	31				29.670	48.91
27	+ 15-164	Sept.	11	8	1	1	59.509	74 43 45.28
			17				59.562	45.72
			20				59.503	44.83
			25				59.545	45.23
		Oct.	7				59.398	45.25
			14				59.475	44.32
28	+ 16-116	Sept.	18	8	1	2	2.013	73 10 47.71
		Oct.	8				2.215	49.11
			25				2.232	51.11
29	+ 16-119	Sept.	16	8.6	1	2	34.968	72 56 18.96
		Oct.	9				34.960	19.34
			10				34.924	20.20
			24				35.025	20.31
30	+ 14-175	Sept.	17	6.4	1	4	18.272	74 55 1.40
			18				18.158	55 0.78
		Oct.	3				18.287	54 59.84
			25				18.269	55 2.11
31	+ 17-166	Sept.	10	8.8	1	5	3.748	72 11 53.66
			16				3.999	53.32
		Oct.	9				3.904	54.55
32	+ 16-123	Oct.	7	8.5	1	5	10.297	73 48 48.68
			10				10.443	47.43
			14				10.220	47.71

March 1891.

of Comparison Stars etc.

353

No. of Star.	D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
33	+ 13-175	Oct. 8	8.2	1	5	24.071	75	53	55.36
		24				24.111			55.49
		31				24.164			52.74
34	+ 15-175	Sept. 10	8.3	1	6	55.791	73	49	31.16
		Oct. 9	8.5			55.862			30.78
		25	8.5			55.780			32.39
35	+ 15-177	Sept. 25	6.5	1	8	13.818	74	27	14.87
		Oct. 3				13.836			15.10
		7				13.776			15.87
		10				13.743			14.28
		14				13.707			14.25
		24				13.916			15.61
		31				13.875			13.76
36	+ 16-129	Oct. 3	8.3	1	10	15.814	72	57	6.72
		7				15.796			7.07
		8				15.756			6.29
		9				15.876			7.62
		24				15.945			7.69
		25				15.695			8.32
37	+ 15-185	Sept. 18	8.8	1	11	34.372	74	13	52.20
		20				34.567			51.17
		25				34.386			52.63
		Oct. 10				34.566			52.30
		31				34.496			52.09
38	+ 17-183	Sept. 17	8	1	12	26.053	72	0	29.15
		Oct. 3				26.221			29.27
		7				26.086			28.61
		8				26.089			28.38
		9				26.024			29.05
		14				26.001			27.45
		24				26.167			28.69
		25				25.976			29.30

Observations of Stars as Culminators.

D.M.	Month and Date. 1889.	Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
			h	m	s	°	'	"
+ 10-065	Sept. 16	7.3	0	31	32.082	79	10	27.26
	17				31.985			28.80
	18				31.858			27.49
	20				32.091			28.96
	25				31.967			28.50
	Oct. 3				31.906			26.68
	7				31.964			28.41
	8				31.989			28.41
	9				32.038			27.51
	10				32.168			29.28
	12				32.091			28.33
	14				32.247			26.17
	21				32.023			28.32
	4				31.978			30.50
	25				31.966			28.37
	31				32.083			27.02
+ 15-106	Sept. 16	7.3	0	37	4.373	73	56	35.49
	17				4.261			38.95
	18				4.134			36.40
	20				4.323			36.64
	25				4.281			37.13
	Oct. 3				4.141			36.50
	7				4.239			37.25
	8				4.277			36.75
	9				4.334			36.31
	10				4.284			37.21
	12				4.231			36.54
	14				4.363			34.96
	21				4.278			37.40
	24				4.301			37.88
	25				4.254			36.63
	31				4.432			36.50
+ 10-171	Sept. 16	7	1	17	2.176	79	12	45.99
	17				2.179			47.63
	18				2.101			46.22
	20				2.255			46.99
	25				2.201			47.26

March 1891.

Mr. Gledhill, *Satellites of Saturn etc.*

355

D.M.	Month and Date. 1889.		Mag.	Mean R.A. Jan. 1, 1889.			Mean N.P.D. Jan. 1, 1889.		
				h	m	s	°	'	"
+ 10-171	Oct.	3	7	1	17	2'300	79	12	47'22
		7				2'121			47'14
		8				2'166			46'56
		9				2'215			47'84
		10				2'217			46'47
		14				2'175			46'55
		24				2'291			48'32
		25				2'083			47'85
		31				2'222			46'80
+ 16-154	Sept.	16	7.2	1	22	26'012	73	29	42'55
		17				25'922			44'25
		18				25'907			43'26
		20				26'057			43'54
		25				26'085			43'84
	Oct.	3				25'934			44'44
		7				25'965			44'17
		8				25'925			43'86
		9				25'958			44'52
		10				25'989			43'96
		14				26'000			43'74
		24				26'139			44'87
		25				25'873			44'83
		31				26'151			43'56

Observations of the Satellites of Saturn: Conjunctions with the centre of the planet; of Occultations of Stars by the Moon; and of Phenomena of Jupiter's Satellites. Observed at Mr. E. Crossley's Observatory, Bermerside, Halifax, with the 9½-inch Cooke Refractor. Power 240. By J. Gledhill.

1886, January 11.—Very faint. *Enceladus* s. Not up at 8^h 50^m. Up at 8^h 55^m (?) Past at 9^h 5^m (?). Certainly past at 9^h 10^m. G.M.T.

January 18.—*Tethys* s. Not up at 8^h 50^m and 8^h 55^m. Past at 9^h 10^m.

January 26.—*Rhea*. Up at 5^h 50^m (?), 5^h 55^m (?), 6^h (?). Past at 6^h 5^m. *Enceladus* s. Very difficult owing to haze. 10^h 30^m not in line. 10^h 45^m past.